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How the Macroeconomic Environment Affects Human Resource Development

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An outward orientation of the macroeconomic environment encourages more efficient development of human resources. Structural adjustment programs that address distortions in domestic capital and labor markets expand incentives for private training and the more efficient use of public resources in skills development.

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This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger effort in the Department to improve policies for the financing and provision of vocational education and training. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Valerie Charles, room S6-228, extension 33651 (29 pages). January 1992.

Do inward-focused development strategies reduce competition in factor markets and incentives for more efficient skills development? Do outward-focused development strategies improve them?

Adams, Goldfarb, and Kelly compared vocational education and training systems in six developing countries in the 1980s. They found that an outward orientation encourages more efficient development of human resources.

Protectionist trade regimes that shelter producers from global competition produce price distortions in domestic capital and labor markets that affect the efficient use of resources in skills development. Structural adjustment programs that address these distortions expand incentives for private training and for more efficient use of public resources in skills development.

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INTRODUCTION

The link between macroeconomic policies, trade regimes, and competitive factor markets has been well documented.[1/] The choice of an inward- or an outward-focused trade regime is an important determinant of relative factor prices and employment. While considerable attention has been given to the connection between trade and employment, much less attention has been given to the effect of this relationship on human resources development. This paper looks at how a country's choice of development strategies shapes incentives for the efficient use of resources in education and training. It examines the importance of export-led development to competition in factor markets and incentives for private and public investments in skills development. It is particularly interested in how competitive factor markets affect the efficient use of public resources in education and training.

A comparative approach is used to address these issues. Six developing countries -- Egypt, Malaysia, Nigeria, South Korea, Thailand, and Tunisia -- were chosen to achieve a mix of development strategies for study. Background papers were prepared describing the macroeconomic policy environment, development strategies, and the structure and performance of the vocational education and training system in each country during the 1980s. Other country-specific sources of information were used, including studies by the World Bank. The comparative approach furnishes evidence of a link between the macroeconomic environment and human resources development. Developing countries with outward-focused trade policies are found to rely more heavily on private resources in skills development and encourage greater efficiency in the public delivery of skills training.

The study begins with an explanation of the theory that links macroeconomic policies, trade regimes, and competitive factor markets. It describes how the choice of a trade regime influences competition in capital and labor markets, and how this competition affects the market signals that guide investments in human resources development. The theory is used to develop questions for further study. Next, macroeconomic trends and development strategies in each of the six countries in

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[1/] See, for example, Krueger (1988); Haggblade, et al. (1986); and Belassa (1988)

the 1980s are compared. The trade regime of each country is identified and linked to competition in capital and labor markets. Then, research questions involving the macroeconomic environment and its impact on human resources development are studied by comparing the structure and performance of vocational education and training in each country. Conclusions and policy implications are discussed.

CHOOSING A TRADE REGIME

A country's choice of trade regimes and related macroeconomic policies influence the composition of production for import-substitution and export. An inward-focused trade regime encourages production for import-substitution by increasing the cost of imported goods through tariff and non-tariff restrictions on trade. These restrictions by sheltering producers from global competition make production for import-substitution more profitable than producing for export. An outward-focused trade regime on the other hand encourages production for export by lowering trade restrictions and reducing the profitability of import-substitution. The choice of trade regimes has implications for factor markets, affecting among other things, employment and skills demand.

Factor Market Implications

The impact of a trade regime on factor markets is shaped by the scope of protectionism. An inward-focused trade regime with high levels of protection creates market conditions that encourage the segmentation of capital and labor markets. Where this happens, production in the modern sector of an economy tends to become more capital- and skill-intensive than it would be in the absence of protectionist trade policies.[2/] The opposite condition holds, however, for production in the informal sector. This distortion of factor markets raises the issue of whether these price distortions, especially for labor, reduce incentives for efficiency in human resources development.

[2/] See, for example, Belassa (1988); Lamusse (1986); Tan (1987); Corbo, et al. (1985); and Griffith (1990).

The market process underlying this hypothesis begins with protectionist trade policies that open the way to factor market segmentation. By restricting imports, these policies produce an excess demand for imported goods and an overvalued exchange rate. Because many capital goods are imported in developing countries, the relative price and availability of foreign exchange affects the purchase of imported capital equipment. The scarcity of foreign exchange is accentuated by an inward-focused trade regime through its incentive to produce for import-substitution rather than export. This often forces a government into the rationing of scarce foreign exchange. Although governments typically give priority to capital goods imports, scarcity prevents the approval of all applications for foreign exchange and import licenses.

A government's rationing of scarce foreign exchange produces capital market segmentation. The tendency is to favor capital investments in protected sectors of an economy where returns are more secure. This translates into access to imported capital at prices well below the opportunity cost of scarce foreign exchange for selected import-substituting firms in the modern sector. Other firms, without access to foreign exchange on favorable terms, are forced to pay the higher cost of imported capital equipment in the black market, or to pay the higher prices of imported capital goods in resale markets (Haggblade, et al., 1986). In either case, this creates two groups of producers, one with relatively low prices for capital goods, the other with higher prices.

This price "wedge" in the cost of capital provides an incentive for the substitution of capital for labor among the favored producers. To the extent this capital is skill-intensive, it also increases the demand for scarce skills. Other producers without access to imported capital goods on favorable terms face a different set of production incentives. These incentives encourage the choice of more labor-intensive production technologies. The rationing of foreign exchange for capital imports tends to favor large, modern sector firms against smaller, informal sector firms. The segmentation of capital markets itself distorts choices affecting employment and skills demand, and is usually accompanied by distortions in labor markets.

Labor markets in an inward-focused economy need not become segmented and price distorted, but there is a tendency for this to happen (Fields, 1990; Belassa, 1988; and Krueger, 1986). Protectionist trade policies reduce competitive pressures on labor markets. The sheltering of producers from global competition provides room for trade unions and governments to intervene in labor markets in wage setting and employment in ways that collectively drive up wages and the cost of labor (Balassa, 1988; Krueger, 1986). The increase in labor cost is sustained by protectionism that limits the downward pressure on domestic producer prices. The cost of enforcing labor market regulations tends to limit their application to larger enterprises which give rise to the informal sector and labor market segmentation (Haggblade, et al., 1986; Rao, 1985).

In this fashion, inward-focused trade regimes are associated with factor market segmentation that distort production decisions and market pricing signals guiding human resources development. Krueger (1983, Table 7.1) reports that in a three country study -- Chile, Pakistan, and Tunisia -- a protectionist trade regime lowered the cost of capital by more than 30 percent for producers with favorable access to foreign exchange. Using the same data, Balassa (1988) argues that trade policies reduce capital costs in inward-oriented countries, but have no effect in outward-oriented countries. In a study of seven developing countries, Haggblade, et al. (1986, p.23) found the cost of capital for small non-agricultural enterprises to be as much as 30 percent higher than that for large-scale enterprises. The latter tended to be more capital-intensive than the former.

Implications for Human Resources Development

The impact of trade regimes on factor markets and employment raises a number of interesting questions for macroeconomic policy and human resources development. To begin, can labor market price distortions arising from an inward-focused trade regime, if ignored, impede the successful transition to an outward-focused economy? Stated differently, how important are labor reforms to achieving sustained economic growth through export-led development? Will opening an economy to

trade provide sufficient market discipline to improve the competitive behavior of labor markets, or is it necessary to accompany macroeconomic policy and trade reforms with labor reforms?[3/]

There are even more challenging questions. How essential are labor reforms to improving efficiency in human resources development? What effects do inefficiencies in this development have on economic growth and adjustment to macroeconomic shocks? These questions reflect a demand-side perspective on the problem of efficiency in skills development. The line of reasoning is as follows. In an inward-focused economy, distorted pricing signals in factor markets may lead to inefficiencies in the mix of skills produced and the choice of technologies and resources used in their production. Protectionist trade policies can shelter producers from the economic cost of external and internal inefficiencies in skill development.

There is little empirical research available on this issue.[4/] The implications are that competitive labor markets with undistorted pricing signals could be important to imposing market discipline on human resources development as it occurs through education and training. The preceding analysis of trade regimes and factor markets suggests the possibility of a link between the choice of an outward-focused trade regime, the presence of competitive factor markets, and incentives for the efficient use of resources in skills development. Indeed, it is difficult to foresee an economy competing effectively in global markets with inefficient factor markets and distorted incentives for skills development. These conditions would impede efficiency in production.

A number of interesting hypotheses emerge for human resources development. For example, is there evidence of greater efficiency in human resources development in outward-focused trade regimes? What about economies that have experienced structural adjustment moving from inward- to outward-focused development strategies? Is there evidence of human resources development responding to the changing price signals produced by this shift in development strategies? Because

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[3/] Corbo, et al. (1985) argue that well-functioning labor markets are a necessary, but not sufficient condition for successful export-oriented growth. This view is shared by others (Krueger, 1988; Haaparanta and Kahkonen, 1986; and Haggblade, et al., 1986).

[4/] See Adams and Schwartz (1988) for a review of this research.

skills training by enterprises tends to be more demand-driven than training by public training institutions, is there a correlation between the choice of a trade regime and the balance of public and private skills training?[5/]

In the section that follows, attention is focused on the macroeconomic trends and development strategies of six developing countries chosen to reflect a mix of trade regimes. This comparison is subsequently linked to a description of the structure and performance of skills training systems in these countries to explore two questions. Do enterprises and proprietary institutions play a larger role in the training systems of outward-focused than of inward-focused economies? Is there evidence of greater external and internal efficiency in the training systems of outward-focused economies? The first of these questions applies to the structure of training systems and the second to their performance.

MACROECONOMIC TRENDS AND DEVELOPMENT STRATEGIES

The period of review for this study, the 1980s, was a period of considerable change for developing countries and, to a certain degree, instability. Generally speaking, it was also a period of disappointment, as growth rates fell short of expectations, and well below performance during the 1970s. In 1980, the World Bank forecast average annual real growth of 4.5 to 5.1 percent in developing countries for the first half of the decade and slightly higher growth rates for the second half. However, from 1980 to 1988, this growth averaged only 4.3 percent per annum, substantially less than the 5.6 percent average of the 1970s (World Bank, 1990).

Oil exporting countries began the 1980s in a position of strength, buoyed by the price and income effects of the second oil shock. The initially favorable economic outlook encouraged the continuation of expansionary fiscal policies, indebtedness, and for a number of these countries, overvalued exchange rates that discouraged non-oil exports. Trade and public sector deficits began

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[5/] For a review of the literature comparing training in enterprises, schools, and training centers see John Middleton, Adrian Ziderman, and Arvil Van Adams, Skills for Productivity: Policies for Vocational Education and Training in Developing Countries, New York: Oxford University Press (forthcoming).

to emerge in tandem with shortfalls in revenues as oil demand fell well short of expectations. Average annual GDP growth for oil exporters as a whole was only 1 percent between 1980 and 1988.

Oil importing and exporting countries faced additional price fluctuations, such as those imposed by changing terms of trade, tightened trade regulations of industrialized countries, and slow growth in world markets. Malaysia, for example, had to face both falling oil and commodity prices from 1980 to 1984. By mid-decade, the majority of developing countries had to face the need for stabilization programs to decrease public budget and balance of payments deficits and adjustment programs to reduce market price distortions and establish conditions favoring sustained economic growth.

GDP Growth Rates

The average annual GDP growth rate in low-income countries was 6.4 percent from 1980 to 1988. For lower-middle income countries it was 2.6 percent and for upper-middle income countries it was 3.3 percent (World Bank, 1990). Of the six developing countries represented in this study -- Egypt, Malaysia, Nigeria, South Korea, Thailand, and Tunisia -- five exceeded the average rate of growth for their respective income groups. Nigeria was the exception, as its growth rate was -1.1 percent per annum over the period (See Table 1). The growth of these countries is found below to vary with the choice of development strategy.

South Korea, which is highly dependent on imported oil, registered negative growth in 1980 in response to the second oil shock. The recession extended into 1982, but thereafter, the South Korean economy experienced an economic boom with real growth rates in excess of 11 percent. In Southeast Asia, Thailand and Malaysia began to emerge as newly industrializing countries. After a sharp, but brief recession in 1986, when real GDP growth fell to 4.5 percent, Thailand's economy recovered quickly with growth surging to 10 percent in 1988. Malaysia experienced a similar pattern of recession and a rapid, strong recovery.

Table 1

GDP Growth Rates for Surveyed Countries
(Constant 1980 US$)

Country	1980-86	1987	1988	1980-88
Egypt	6.6	2.5	3.2	5.7
Malaysia	4.8	5.3	8.9	4.6
Nigeria	-2.1	-4.2	4.7	-1.1
South Korea	9.2	11.9	11.3	9.9
Thailand	5.5	8.1	10.0	6.0
Tunisia	3.5	5.8	1.5	3.4

Source: World Bank

The picture was different, however, for Egypt, Nigeria, and Tunisia. Egypt, after undergoing strong oil-led growth in the late 1970s and early 1980s, accompanied by rising revenues from the opening of the Suez Canal and remittances from workers abroad, faced a drop in oil demand and a rapidly deteriorating economy as the decade progressed. Also an oil producer, Nigeria registered negative growth for most of the decade before engineering a recovery in 1988. Tunisia also experienced a drop in oil demand, but an adjustment program and a devaluation in 1986 led to a recovery in 1987. This recovery was cut short, however, by a severe drought in 1988 with GDP growth falling to 1.5 percent.

Budget Deficits and Balance of Trade

Budget deficits were the rule in the six countries from 1980 to 1986 (Table 2). This expansionary fiscal policy appeared to work in Malaysia, South Korea, and Thailand where the subsequent increase in real output led to a reduction of deficit spending as a percent of GDP. Tunisia also showed signs of success in 1987, before the sharp downturn in 1988. The policy was less successful in Egypt, however, as measured by the slowing of the economy and the rising budget deficit as a percent of GDP. A similar pattern in Nigeria was reversed with the upturn of the economy in 1988 and a reduction of the budget deficit in relation to GDP.

Table 2

Current Account and Public Sector Budget Balances as a Percent of GDP

Country	Current Account/GDP			Public Sector Budget/GDP		
	1980-86	1987	1988	1980-86	1987	1988
Egypt	-11.6	-11.8	-7.9	-11.7	8.4	-16.3
Malaysia	-6.3	7.6	4.7	-10.1	-7.6	-4.3
Nigeria	-1.5	-0.3	-3.5	-6.2	-9.8	-8.0
South Korea	-2.1	7.5	8.2	-1.5	0.4	1.6
Thailand	-4.9	-1.0	-3.2	-4.7	-2.4	-2.0
Tunisia	-7.4	-1.0	0.9	-5.2	-3.0	-3.9

Source: World Bank

Improvements in the current account balance associated with trade were important to reducing deficit spending and improving a country's capacity to manage external debt. The injection of spending provided by export growth during the decade in Malaysia, South Korea, Thailand, and Tunisia reduced the need for expansionary fiscal policy and deficit spending. Exports enabled these countries to import without incurring additional external debt. Events in Nigeria, however, were different as the current account balance further deteriorated. Weak export growth in Egypt and the financing of a continuing stream of imports with external debt made it one of the most highly indebted countries in the world in the 1980s.[9/]

Development Strategies

Economic growth is closely associated with the choice of trade regimes in the six countries. While it is difficult to measure precisely the development strategy employed in each country, the evidence suggests that South Korea during the 1980s was strongly outward-focused. The trade

[9/] Egypt's budget deficit of -16.3 percent relative to GDP was the largest such deficit in 1988 among all countries. Higher deficits, however, had been recorded in the early 1980s. In 1982, for example, Malaysia initiated structural reform in response to a public sector budget deficit of 19% and a current account deficit of 14% of GDP.

regimes of Malaysia and Thailand could also be described as outward-focused and were shifted further in this direction by reforms during the decade. In contrast, however, Egypt, Nigeria, and Tunisia entered the 1980s with largely inward-focused trade regimes. The three countries attempted with unequal results to shift to export-led development as the decade progressed.

South Korea, Malaysia, and Thailand exhibited strong export-led growth from 1980 to 1986, consistent with their outward-focused trade regimes (Table 3). This growth appeared to accelerate as the decade progressed, softening somewhat in 1988. Manufactured goods accounted for most of South Korea's export growth, and were a major source of the growth in Malaysia and Thailand in 1987 and 1988. In both the latter countries, manufactured goods rose sharply as a percent of total exports. Declining demand for oil slowed export growth in Egypt and Tunisia from 1980 to 1986, and in Nigeria, exports actually declined. Trade reforms led to the subsequent expansion of exports in all three countries with manufactured goods rising as a share of total exports.

Table 3

Growth of Exports and Manufactured Share of Exports
1980-1988

Country	Growth Rate of Exports			Manufacture Share (Ratio)		
	1980-86	1987	1988	1980-86	1987	1988
Egypt	2.1	6.3	44.2	10.1	19.6	24.5
Malaysia	8.6	14.4	11.9	25.8	39.5	45.2
Nigeria	-8.5	-29.6	10.8	0.8	1.6	2.2
South Korea	11.6	21.6	13.1	91.2	92.4	93.3
Thailand	8.7	20.6	19.6	34.4	52.5	51.6
Tunisia	1.0	14.2	24.5	42.3	60.7	64.1

Source: World Bank

Movements in exchange rates are connected with shifts in trade regimes. The devaluation of exchange rates encourages exports and outward-focused development, while inflation of exchange rates is a sign of protectionist trade policies and inward-focused development. Egypt was the only country among the six whose exchange rate appreciated consistently over the period from 1980 to

1988 (Table 4). Nigeria, whose exchange rate had appreciated during the 1970s as a result of oil revenues, initially resisted reform in the 1980s, but was forced to take drastic action to counteract mounting deficits. The Naira was devalued by 64 percent in the last quarter of 1986, and another 16 percent in 1987.

Table 4

Indices of Real Effective Exchange Rates
(1980=100)

Country	1980-86	1987	1988
Egypt	133.4	156.4	159.0
Malaysia	105.4	87.8	79.6
Nigeria	128.7	29.0	29.7
South Korea	98.8	80.2	88.9
Thailand	100.7	79.9	77.3
Tunisia	96.0	71.2	69.8

Source: World Bank

Impact on Factor Markets

Agarwala (1983) studied market price distortions, including factor markets, in the early 1980s for 31 developing countries. His findings confirm the link between trade regimes and factor market price distortions. He developed criteria for ranking price distortions in fiscal, monetary, and exchange rate policies; product markets; finance and credit markets; labor markets; and the public sector. The distortion rankings given for each of these features were low = 1, medium = 2, and high = 3. The rankings were averaged across all features for each country. Price distortions in the six comparator countries show a correlation with the trade regimes described above (Table 5).

Table 5

Market Price Distortion Indices

Country	Price Distortion Index		
	Total	Labor	Capital
Outward-focused			
Malaysia	1.57	2	2
South Korea	1.57	1	2
Thailand	1.43	1	1
Inward-focused			
Egypt	2.14	3	3
Nigeria	2.71	3	3
Tunisia	1.57	1	2

Source: Agarwala, 1983.

Egypt and Nigeria, for example, with strongly inward-focused trade regimes exhibit the highest levels of market price distortions. Outward-focused trade regimes in Malaysia, South Korea, and Thailand, on the other hand, are associated with low levels of market price distortion. The only exception to this pattern seems to be Tunisia, which is described above as moderately inward-focused, but whose price distortion index matches that of countries like South Korea. Here, in the case of labor market price distortions, Agarwala's judgement conflicts with a later U.S. Agency for International Development study (Rucker, 1990) which found strong evidence of policy distortions in Tunisian labor markets.

Agarwala referred to the difficulty of comparing labor market price distortions since very few developing countries have systematic data on wages and productivity. His basic indicator was whether real wages in manufacturing rose significantly faster than per capita real income adjusted for changes in external terms of trade. He also included in his subjective ranking any significant evidence of government and trade union interventions in labor markets. In Egypt and Nigeria, he

refers to the widening gap in the 1970s between wages and productivity. Malaysia's medium distortion ranking appears to be based on its "Malay first" policy in employment.

Labor marke distortions were found to explain about 10 percent of the variance in economic growth for the 31 countries (Agarwala, p. 27). Low labor market distortion countries performed much better in overall GDP growth. These countries averaged 5.9 percent real GDP growth in the 1970s compared with 4.5 percent in high labor market distortion countries. Lower trade and exports are also associated with labor market distortions. The growth rate of exports averaged 6.5 percent in the 1970s in low labor market distortion countries compared with -0.3 percent in high labor market distortion countries.

In terms of labor market distortions, Egypt and South Korea are at opposite ends of a policy spectrum just as they are in the case of trade regimes. A World Bank study (1991) of Egyptian labor markets identifies extensive government policy interventions in these markets separating wages from productivity. The public sector in Egypt accounts for 53 percent of nonagricultural employment thereby making its wage and employment policies quite important. Real wages in the public sector were allowed to decline in the 1980s with the downturn of government revenues, but for equity reasons the reduction was restricted largely to the wages of skilled workers, producing a high level of wage compression. Wage setting had little to do with productivity and more with perceptions of equity.

In the 1970s, public sector wages in Egypt were roughly 30 percent higher than those in the private sector, and public employment had attractive fringe benefits in the form of pensions, health care, and stability of employment. Public sector employment was guaranteed to graduates of secondary technical schools and universities. These policies helped produce a segmented labor market that had a queue of applicants for the higher wage sector. The deterioration of the Egyptian economy and falling real wages in relation to the private sector, however, failed to produce a flow of workers out of public sector employment in the 1980s. The security and other non-wage benefits of

this employment encouraged workers to hold on to these jobs while taking second and third jobs to survive.

Under these circumstances, labor mobility was reduced slowing economic adjustment and causing public sector wages to fall even further than would have been the case had the labor supply adjusted (World Bank, 1991, pp. 49-53). Labor mobility was also adversely affected in the private sector by government restrictions on hiring and firing. These restrictions discouraged employment generation. Employers were forced to use the state employment service to recruit employees and were unable to lay off workers without approval from the Ministry of Manpower, which involved a lengthy adjudicatory process. Costly social insurance charges also reduced employment generation in the modern private sector. The combination of these interventions distorted the competitive operation of Egyptian labor markets.

In contrast to Egypt, labor markets in South Korea in the 1980s appeared competitive. Korean labor markets were very effective in adjusting to changing patterns of labor demand (Stevenson, 1988). Government interventions were kept to a minimum. The government played little or no role in wage setting, or regulation of labor markets. Moreover, it imposed various legal barriers to union activities which weakened collective bargaining in the early 1980s. As a result, there were few institutional impediments to real wage adjustments. When government did intervene in wage setting in this period through the settlement of labor disputes, it was often in the direction of wage restraint.

The laisser-faire approach of South Korea was thus very different from Egypt's interventionist model. Labor markets in Malaysia and Thailand are considered closer to the South Korean model than to the Egyptian model. The flexibility of labor markets is given a share of the credit in Malaysia and Thailand for the rapid recovery of each country from the mid-decade recession (Mazumdar, 1990; Sussangkarn, 1990). Tunisian labor markets, on the other hand, appear closer to the interventionist model. Rucker (1990) describes a list of interventions leading to labor market segmentation in Tunisia. He credits labor market regulations for the increase in capital intensity to avoid labor use in

the modern sector. While modern sector labor markets in Nigeria are strongly interventionist, these markets account for only 11 percent of the country's total employment (Birks and Sinclair, 1991).

STRUCTURE AND PERFORMANCE OF SKILLS TRAINING

The economic trends above support the existence of links among macroeconomic policies, trade regimes, and competition in factor markets. But what implications, if any, do these linked factors have for the structure and performance of human resources development? To state the issue more generally, does a country's economic environment and development strategies, as embodied in these linkages, strongly influence the nature and success of human resources development? This section examines the six countries for evidence of a relationship between the economic environment and the provision of skills training. It looks first at the structure of vocational education and training (VET) systems to assess whether open economies and competitive factor markets exhibit flexible and responsive training systems. Where the private sector plays an important role in this structure, training is expected to be more flexible and responsive to market forces. The section looks next at the actual performance of VET systems and whether open economies and competitive factor markets demand greater internal and external efficiency of public and private training systems.

A full appreciation of the VET system in a country involves understanding the following:

- the division of institutional responsibility for training between schools, training centers, equipment suppliers, and enterprises,
- the division between formal and nonformal training, and between apprenticeship and on-the-job training in enterprises and other categories of training,
- the policies and incentives that shape the content and responsiveness of particular forms of training to economic conditions, and
- the methods of financing components of the VET system, and whether and how trainees pay for their training.

The information available regarding these features varies in detail in each of the six countries limiting direct comparisons. The analysis, reflecting this variation, attempts to decipher the broad trends and tendencies with regard to the structure and performance of VET. It examines these

outcomes early in the 1980s in the three largely outward-focused and three largely inward-focused countries. It also examines how these outcomes are affected as the three inward-focused countries attempted in mid-decade to adopt export-led development strategies, although here the results are much more tentative since the time for observing the VET system's response is limited to only a few years. The analysis begins by looking at the structure of VET in the six countries.

The VET Structure

Export-led economies are subject to the pressures of global competition demanding cost-effective training systems that are flexible and responsive to market forces. The ability to expand production quickly, shift workers in response to changing product demand, introduce cost-saving technologies, and meet the human resource needs of new industries requires country VET systems that are sensitive to market demand and competition. The inability to respond quickly to this competition can impede the success of an export strategy. This need for VET responsiveness in outward-focused economies suggests that market-oriented VET systems in such settings will feature considerable diversity in their structure and programs to enable them to react to the changing needs of a dynamic market-oriented economy

South Korea's outward oriented economy has a VET system that displays exactly this kind of diversity. The system is diversified in that it has a range of training institutions designed to serve a number of clienteles. Training providers include public and private vocational high schools, a system of night classes in vocational high schools for employed school leavers, junior colleges, virtually all private, that train technicians and skilled workers, private firms that provide skills training for employees and public vocational training institutes. Clienteles include students in pre-employment training, new entrants and re-entrants to the labor force, job changers and job losers, and the employed searching for training on the job during working hours or, alternatively off the job during non-working hours.

This diversification of the VET system in South Korea results from the system's orientation toward the market demand for skills. A major feature of the system's evolution has been its focus on and responsiveness to the labor-skill demands arising from the economic development process. An important contributing feature to this responsiveness has been the sizable training role of the private sector. Lee (1986) finds enterprise training accounting for just under 40 percent of public and private sector training capacity.[7/] Program diversity may reflect responsiveness of VET to market forces, as it does in the South Korean case. But this diversity may also reflect a lack of pressure for efficiency in skills training with an increasing redundancy of programs and training activities.

Diversity that is redundant does not provide a widening menu of relatively successful programs serving the needs of different clientele. Instead, it represents a piling up of new programs with severely limited chances for success on top of older, unsuccessful programs that continue to limp along rather than being terminated. In particular, the complexity may be generated by a continual groping to try new initiatives because existing ones fail to achieve their objectives. The redundancy tends to arise in situations where markets exhibit significant distortions so that the "signals" received by individuals and training institutions are misleading. It can arise where market distortions inhibit employment generation and VET is diverted from preparing individuals for productive employment to achieving broader social objectives, including that of delaying entry into the labor force.

The Tunisian experience provides an example of this redundancy. The Tunisian VET system has been supply-driven and dependent on government planning for employment creation. In the mid-1980s, the Tunisian economy was unable to create enough jobs for its rapidly expanding labor force. Macroeconomic problems were exacerbated by distortions and inflexibilities in labor markets. The high level of diversity and complexity observed in the Tunisian VET system emerged from the system's response to the absence of adequate employment opportunities for new labor force

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[7/] The enterprise share of total training capacity in 1977 was initially as high as 70 percent following adoption of tax incentives for private training in 1976.

entrants. Macroeconomic failures to generate enough employment growth led to pressures for the VET system to "do something." The "something" often took the form of the system creating yet another training program to serve a group having trouble obtaining employment.

A brief catalog of employment training programs and initiatives illustrates the diverse and complex range of programs Tunisia created in response to its perceived labor market adjustment problems. The VET system in Tunisia, like that in South Korea, includes vocationally-oriented programs in the school system, public vocational training outside the school system, and training programs run by public enterprises and private training institutions. The public sector accounts for most initiatives.[9/] Cherif (1990) lists employment training programs in the 1980s for graduates of secondary technical schools, vocational training centers, and higher education. He mentions others for rural development, youth employment promotion, and productive families. The proliferation of employment training programs he cites is indicative of a VET system concerned with employment shortfalls rather than market demand for skilled workers.

Thus, both South Korea and Tunisia exhibit diversity in their VET systems, but with different goals. The goal in Tunisia was to compensate for macroeconomic failures, while that in South Korea was to complement rapid economic growth and macroeconomic successes. The latter creates incentives for private sector involvement on the part of enterprises and proprietary training institutions. As already indicated, the private sector plays an important role in the South Korean VET system, and a much smaller role in Tunisia. Egypt with its strongly inward-focused economy shares many of the same problems experienced by Tunisia. Employment growth in Egypt's modern sector economy was stagnant in the 1980s. The private sector was largely absent from its VET system. A World Bank study (1989) found expansion of public VET in Egypt unrelated to producer demand, and instead, concerned with reducing demand for higher education which was provided tuition-free.

[9/] Cherif (1990) reports that 9 out of 10 secondary students are enrolled in government schools in Tunisia. Outside the school system in 1984, 3 out of 4 trainees were enrolled in government vocational training centers. The government was responsible for all employment training program initiatives during the 1980s.

With the exception of Nigeria which has nearly 90 percent of its employment in the informal sector, the private sector's participation in VET systems is correlated with a country's choice of macroeconomic policies, trade regime, and factor market competition. The open economies of Malaysia and Thailand, as well as that of South Korea, appear to have significant private sector participation in human resources development. Hopkins (1990) estimates that around 30 percent of technical training in Malaysia occurs in private institutions and that nearly two-thirds of all vocational training takes place in the private sector. He notes that private vocational schools are widespread in Malaysia from little more than large offices providing language or computer programming to substantial post-secondary institutions with enrollments of over 4,000 students.

Private institutions also account for an important share of VET in Thailand, according to Brimble and Rachatatanum (1990). In 1988, enrollments in formal VET were over 447,000. Slightly more than 183,000 of these enrollments were in private institutions. Nonformal VET enrollments numbered over 474,000 in 1987 with nearly 151,000 in the private sector. The fragmentary evidence provided regarding the importance of private sector participation in the delivery of VET is consistent with expectations. In the open economies of Malaysia, South Korea, and Thailand, VET systems would seem to be more market-driven by virtue of the role played by the private sector in skills training. This is not the case for the inward-focused economies of Egypt and Tunisia.

Nigeria provides an interesting exception to this pattern. Strongly inward-focused, Nigeria exhibits a segmented labor market. Its small modern sector, approximately 11 percent of the country's total employment, is dominated by a larger informal sector. Training for the informal sector is customarily carried out through apprenticeships, rarely through the formal VET system. Oni and Sinclair (1990) confirm that all secondary vocational schools, secondary technical schools and polytechnics are state-run and funded in Nigeria. The private sector thus plays only a limited role in training for the modern sector, although the authors refer to the emergence in the 1980s of private training for skills that are acquired quickly, require modest capital equipment, and for which skill

achievement is easily verified. Still, the private sector is a major source of skills training in Nigeria by virtue of the size of the informal sector and use of apprenticeships.

Apart from the emergence of proprietary training in Nigeria, there is very little evidence on which to base a conclusion about a shift in the structure of VET toward the private sector as Egypt, Nigeria, and Tunisia engaged in macroeconomic reforms in mid-decade. This leaves open the question of whether a country that moves to export-led development will introduce competition in VET systems leading to a larger role for the private sector in training. Evidence from Thailand, however, illustrates how government regulation of private training can impede market adjustments by imposing barriers to entry on the part of private training institutions.

Brimble and Rachatatanum (1990) identify the regulation of prices as a barrier to entry to private training institutions in Thailand. Fearing price gouging by the private sector, the Thai government limits tuition that can be charged by proprietary institutions for skills training. Public sector training institutions which have the most to gain from restricting entry are involved in the setting of tuition limits. Brimble and Rachatatanum contend that tuition limits are set low enough to make it unprofitable for the private sector to provide skills training. They cite this as an explanation for the low quality of some private skills training and the tendency of the private sector to focus on low-cost skills training. Their study calls for removing price regulations and focusing instead on other forms of consumer protection, including accreditation.

Performance of VET

Competition in factor markets calls for efficiency in the choice of skills produced by a VET system and the methods used to produce them. It is difficult to foresee an enterprise being able to compete in world markets with a training system whose output is unrelated to the market demand for skills (external efficiency) and whose operation is not cost-effective (internal efficiency). The high labor costs associated with such a system are expected to encourage enterprises to put pressure on public systems to improve efficiency in skills training, take more responsibility themselves for training,

or alternatively, adopt more capital intensive production methods. Only enterprises in protected markets could afford training inefficiencies leading to higher labor costs. The comparison of the six countries supports the link between market competition and VET performance.

The importance of competition in factor markets and its impact on the efficiency of human resources development is partially confirmed by the structure of private and public training described in the section above. That is, to the extent that private enterprises and proprietary training institutions are more efficient providers of skills training, the larger share of private training observed in the three export-led economies is consistent with a link between the macroeconomic environment and the efficiency of VET systems in these countries.[9/] The extension of this argument calls for looking at the impact of competitive factor markets on efficiency in the public training sector. If competition works, it should also encourage a more efficient public training sector, unless this sector is sheltered from competition.

The testing of this hypothesis is more difficult than that above involving the structure of VET. This test requires measures of internal and external efficiency for private and public sector training. The evidence available is limited and not well suited to a controlled comparison. The best comparison is found in South Korea. Lee (1985) computes social rates of return for public vocational training institutes, technical high schools, and in-plant training in enterprises. The social rates of return represent a combination of internal and external efficiency measures comparing the cost and benefits of the three types of skills training. The social rates of return are respectively, 17.2 percent for the public vocational training institutes, 11.1 percent for the technical high schools, and 28.3 percent for in-plant training in private enterprises.[10/]

[9/] A stronger test of the causal structure of this relationship would be the observation of changes in the share of private training as an economy shifts to export-led development.

[10/] In this comparison, the graduates of public vocational training institutes and technical high schools were required to undergo the same six-month in-plant training as other recruits from the labor pool. Lee (p.28) adjusts the social rates of return for this "double training." The return for vocational training institutes falls to 10.7 percent and technical high schools to 8.1 percent.

The efficiency of private training is borne out in this comparison. The public sector fared less well, but a more favorable comparison emerges from a subsequent estimate of social rates of return for public secondary vocational schools and private technical junior colleges (Lee, J.-K., 1986). In this case, the social rates of return are roughly the same, exceeding 14 percent. While exceptions might be found, the evidence suggests that public training in open, competitive economies can be efficient alongside private training. Further evidence of this is offered by Hopkins (1990) in Malaysia, although here the data are more problematic. In terms of internal efficiency, Hopkins indicates that dropout and repeater rates seem to be low for both private and public vocational schools. Public schools exhibit better capacity utilization. However, placement rates, a measure of external efficiency, are said to be higher for private institutions.

The evidence in Malaysia is not sufficiently robust to build a case for parity between public and private sectors in VET. The evidence would probably favor the private over the public sector. To reiterate, the more important question is whether the competitive forces generated by an open economy create incentives for the public sector to emulate the private sector in terms of VET being responsive to market forces. Rather than simply looking at static comparisons of VET efficiency, this requires comparisons of change. The issue of change in the structure of VET was framed above in terms of whether the private sector share of VET increases as an economy shifts to an export-led development strategy. Here, the issue of change is whether an open economy encourages an inefficient public sector VET system to become more efficient, internally and externally.

There is evidence of this happening in Malaysia with the government currently engaging in a major reform of the public VET system to make it more demand-driven. By the same token, South Korea has regularly engaged in reforms of its public training system. As the economy's needs for skills have changed through various stages of development, Stevenson (1988) reports that South Korea has been quick to adapt its public training system to meet these needs. Middleton, et al. (1991) offers further insight into the complexities governing public VET and its responsiveness to competition in Thailand. The authors argue that public VET is of good quality, but less flexible to

change than private VET. They find that the heavily subsidized public system of VET responds to problems of excess supply more slowly than the private sector (p. 98).

The amount of competitive pressure placed on the public sector by private VET in Thailand, as mentioned earlier, is constrained by the introduction of tuition ceilings that restrict entry. This type of regulation and the centralization of administration and budgeting in the public sector are factors that can contribute to the isolation of public VET from competitive market forces in other countries. Budgets driven by numbers of students without weighing placements or other performance measures build a certain inertia into the system. Centralized program administration makes curriculum changes time consuming and costly. The same can be said for employment of instructors. In time, even these impediments to change could be broken down by market competition as enterprises collectively place demands on governments and public VET for reform, but as illustrated by Thailand the process may be slow and costly to the economy.

In the inward-focused Egyptian economy, the public sector does not face effective competition from the private sector for the delivery of VET. Public technical education offered by the Ministry of Education accounts for 52 percent of secondary enrollments. Public general education accounts for the remainder. Other technical ministries, e.g., housing and industry, also provide skills training as do large public enterprises and public authorities like the Suez Canal Authority. The World Bank (1991) found that the system had expanded without a focus on market needs. Instead, it is supply driven by the number of students entering the system and it is used primarily to reduce the flow of students into general education. Rapid population growth and a deteriorating macroeconomic situation in the 1980s has meant more students and the squeezing of resources. This has produced a marked deterioration in the quality of training at all levels of the technical education system.

The impact of the macroeconomic environment on VET efficiency in Egypt is twofold. First, the slow growth produced by this environment and the resulting shortfall of public revenues have led to a decline in the quality of training and a reduction of its internal efficiency. Second, the failure of the economy to expand and produce jobs has reduced the external efficiency of public VET. Market

price distortions have failed to provide the VET system with an effective set of market signals to guide the use of scarce resources in skills training. The diversion of its objectives from market needs to social needs has reduced the incentives for system efficiency. VET in Egypt contrasts sharply with that in export-led economies like South Korea. There, economic growth has made cost-effective skills development a necessity. The market signals and incentives have encouraged efficiency in both public and private VET.

The evidence in Nigeria is fragmented and anecdotal. Negative growth in the economy produced many of the same outcomes for pre-employment training observed in Egypt. Birks and Sinclair (1991) report that after 1982 and the collapsing of state revenues, the government was unable to pay teachers' salaries leading to the closure of many schools and classes. This led to a decline in enrollments in secondary technical education and in polytechnics. The authors indicate that the quality of instruction at the technical secondary schools was poor and declined through the 1980s in response to budget pressures (p. 53). External efficiency appeared to be low as employers found it difficult to evaluate the quality of graduates due to the fragmentation of technical secondary schools and the many different points at which students could exit the system. The links between the instruction provided and the local labor markets were considered tenuous.

Birks and Sinclair (p. 55) describe in-employment training in more favorable terms. Large private employers and public enterprises offered training that led directly to employment. This was also true of employers in the informal sector in apprenticeships. Private proprietary training emerged in the 1980s as the economy deteriorated and the demand grew for skills that would lead to a job. This training served both the informal and modern sectors. The authors state that proprietary training was able to grow as a result of the absence of prohibitive regulations, the growing demand for productive skills, and the disenchantment with formal pre-employment modes of skills training (p. 59). The response of private training in this context is an important finding. In contrast to Thailand which imposed regulatory barriers to entry into private training, the absence of these barriers in Nigeria resulted in a private sector response to emerging market demand.

Nigeria with its initially strongly inward-focused economy illustrates a wide gap in efficiency between public and private VET, a gap wider than that observed in South Korea, Malaysia, and Thailand. The interesting question which only additional time will answer is how long it will take for the public sector to respond to the changing market signals provided by Nigeria's effort to restructure its trade regime. In many respects Nigeria provides a better illustration of the link between the macroeconomic environment and human resources development than Egypt, where the absence of a real exchange rate devaluation continues to shelter the economy in the late 1980s. No private sector response can be detected in the case of Egypt.

Cherif (1990, p. 40) contends that the external efficiency of Tunisia's public VET system is low and that the private sector has failed to assume responsibility for training. The evidence he provides, however, while pointing to the public system's failure to adjust the mix of skills produced to the market demand, suggests that the more important failure is found in Tunisia's macroeconomic policies and the lack of employment generation to absorb the rapidly expanding number of youths entering the labor force. The problem is similar to that in Egypt. Low placement rates for VET graduates are associated with high levels of open unemployment. The low external efficiency of VET in Tunisia leads to low internal efficiency by reducing incentives for enrollment in training. Cherif (p. 49) estimates that capacity utilization of the VET system is around 62 percent.

CONCLUSIONS AND RECOMMENDATIONS

This study extends the theory that links macroeconomic policies, trade regimes, and factor market competition to include human resources development. It examines whether inward-focused development strategies reduce factor market competition and incentives for efficiency in skills development and attempts to test whether trade reforms and movement to export-led growth instill competition and incentives to improve the efficiency of skills training. These questions are addressed by comparing vocational education and training (VET) systems in six developing countries in the 1980s. The six countries were evenly divided between inward- and outward-focused development

strategies. With varying degrees of success, the three inward-focused countries in mid-decade attempted to adopt export-led development strategies.

The findings, qualified as a result of data limitations, indicate that outward-focused countries competing in a global economy do encourage efficiency in human resources development. This appears through higher levels of private sector VET activity and through internal and external efficiency in public sector VET that more closely matches that of the private sector. A stronger test of this relationship in the three inward-focused economies, correlating changes in trade policies with changes in private sector VET activity and public sector VET efficiency, is constrained by the short period of time available for comparisons and the absence of data on changes in VET efficiency. The limited evidence in hand suggests that VET systems do respond to the competitive pressures created by export-led development so long as the regulation of private VET does not impose a barrier to entry and public VET is forced to compete with the private sector.

The findings have policy implications for structural adjustment programs and government initiatives to expand the base of private resources available for human resources development and improve the effectiveness and efficiency of public expenditures on vocational education and training. For structural adjustment programs, the study offers evidence of a connection between macroeconomic policies, trade regimes, and competitive factor markets. Developing this connection in policy terms and opening an economy to trade is a potentially important tool for reducing factor market segmentation and the distortion of incentives for human resources development. However, the responsiveness of factor markets to the opening of economies and the pace of endogenous reforms remain important policy questions that will determine the need for capital and labor market reforms as part of adjustment programs.

Slow growth in the 1980s has threatened public expenditures on human resources development in many developing countries. The study's findings suggest actions that can be taken to counteract this threat. Opening an economy to trade and the presence of competitive factor markets produce incentives for private investment in skills development. It also appears to create

incentives for improving the effectiveness and efficiency of public expenditures on this development. To accelerate the supply response to these incentives by public and private training institutions, the study suggests the importance of taking positive steps to eliminate binding regulations on private VET and to subject public VET to market competition. These steps promise to expand the base of private resources available for skills development and result in a more cost-effective use of public resources.

The findings of the study, of course, based on a comparative study of six developing countries, are subject to further validation. This would include expanding the number of countries studied and improving the measures of VET structure and performance used. Broadening the regional mix of countries would be especially important to reduce the potential regional bias of the study. Future investigations of this topic should also explore its dynamic dimensions. That is, research should be directed to how changes in trade regimes affect the liberalization of labor markets, and subsequently, how these changes influence shifts in the structure and performance of VET. Attention should be given to the identification of conditions under which VET systems respond rapidly to changing trade regimes and market signals.

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